

REMARKS

Claims 1-9 are pending herein.

By this Amendment, claim 1 is amended to more fully distinguish the invention of claim 1 over the prior art references cited against claim 1. Claim 4 and the specification are amended to cure informalities.

No new matter is added by this Amendment. Support for the language added to the claims is found in the original specification, Figures, and claims. In particular, support for the language added to claim 1 is found at, for example, paragraphs [0009], [0030], [0032] and [0033].

I. Rejection Under 35 U.S.C. §112, second paragraph

Claim 4 was rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Specifically, the Patent Office alleges that the term "turbostrutic structure" in claim 4 is indefinite as to the metes and bounds of this phrase. As suggested by the Patent Office, Applicants have amended claim 4 to replace "turbostrutic" with "turbostratic." Applicants have further amended the specification to replace occurrences of "turbostrutic" with "turbostratic."

Applicants submit that the requirements of the Patent Office have been met. Reconsideration and withdrawal of this rejection are thus respectfully requested.

II. Rejections Under 35 U.S.C. §103(a)

A. Relying on Cottevieille

Claims 1-7 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,658,355 to Cottevieille et al. (hereinafter "Cottevieille"). Specifically, the Patent Office alleges that Cottevieille suggests the claimed process but may differ as to the order of the addition of the reactants and that the selection of the order of addition of

reactants is within the level of skill of one of ordinary skill in the art. This rejection is respectfully traversed.

Claim 1 recites a method of producing fine powder of an oxide of a metal. The method includes the following five steps in order: (1) preparing an acidic solution which contains ions of the metal, (2) precipitating fine particles of a hydroxide of the metal by adding an alkaline solution to the acidic solution, (3) collecting the fine particles of the hydroxide of the metal precipitated in a mixed solution of the acidic solution and the alkaline solution, (4) mechanically mixing fine particles of a carbon with the collected fine particles of the hydroxide of the metal, and (5) heat-treating a mixture of the fine particles of the hydroxide of the metal and the fine particles of the carbon at a predetermined temperature that permits burning out of the fine particles of the carbon in a non-reducing atmosphere, whereby the fine powder of the oxide of the metal are produced.

Claim 1, as supported by the specification, provides a simple method for producing fine particles of a metal oxide having a grain size on the order of a nanometer.

Cottevieille, on the other hand, merely provides a mixture of fine particles of a metal oxide and active carbon. Although the step of mixing fine particles of a carbon with the hydroxide of a metal are common to both the present invention and Cottevieille, the heat-treatment step of the claim 1 of the present invention is not taught or suggested by Cottevieille.

Instead, Cottevieille merely teaches that the heat-treatment step is carried out at a temperature of 200° to 300°C. The present invention, on the contrary, requires that the heat-treatment step be carried out at a predetermined temperature selected within a range that permits burning out of the fine particles of the carbon in a non-reducing atmosphere. More specifically, Cottevieille fails to teach or disclose heat-treating a mixture of the fine particles of the hydroxide of the metal and the fine particles of the carbon at a predetermined

temperature that permits burning out of the fine particles of the carbon in a non-reducing atmosphere, as recited by claim 1.

For the foregoing reasons, Applicant submits that Cottevieille fails to teach or suggest the subject matter of independent claim 1 or any of dependent claims 2-9. Reconsideration and withdrawal of the rejection are thus respectfully requested.

B. Relying Upon JP '121

Claims 1-9 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese Application No. 61-122121 (hereinafter "JP '121"). Specifically, the Patent Office alleges that JP '121 suggests the claimed process but may differ as to the order of the addition of the reactants and that the selection of the order of addition of reactants is within the level of skill of one of ordinary skill in the art. This rejection is respectfully traversed.

JP '121 differs from the presently claimed invention in that JP '121 discloses that a step of dispersing fine particles of a carbon in a mixture is carried out before the step of precipitating a hydroxide of a rare metal. More specifically, JP '121 discloses a step wherein selecting and surface reforming of carbon particles is necessarily carried out for dispersing the fine particles of a carbon in the mixture. A suitable amount of time in which to carry out the step of selecting and surface reforming of carbon particles is required.

In the presently claimed invention, however, mechanically mixing fine particles of a carbon with the collected fine particles of a hydroxide of a metal is carried out without dispersing fine particles of a carbon in a mixture. The inventors of the presently claimed invention have discovered that fine powder of a metal oxide can be produced by mechanically mixing fine particles of a carbon with the collected fine particles of a hydroxide of a metal. Nowhere does JP '121 teach or suggest the step of mechanically mixing fine particles of a carbon with the collected fine particles of the hydroxide of the metal, and heat-treating a

mixture of the fine particles of the hydroxide of the metal and the fine particles of the carbon, as recited in claim 1.

For the foregoing reasons, Applicant submits that JP '121 fails to teach or suggest the subject matter of independent claim 1 or any of dependent claims 2-9. Reconsideration and withdrawal of the rejection are thus respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-9 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Linda M. Saltiel
Registration No. 51,122

JAO:LMS/hs

Date: March 12, 2004

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--